

# SEQUENCE LISTING

<110> Ajinomoto Co., Inc.

<120> A method of secreting and producing proteins

<130> Y1J0182

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<150> JP 2001-98808

<151> 2001-03-30

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<170> PatentIn Ver. 2.1

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ggagtcgaga agtggttacgc cgtgccctg tccgcgtcct caccctgtc gccgtgacag 240

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Ala Ala Ser Ser Ala Gly Pro Ser Phe Arg Ala Pro Asp Ser Asp Asp  
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 Arg Pro Ser Tyr Gly Arg Ala Glu Thr Val Val Asn Asn Tyr Ile Arg  
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 Phe Asp Glu Asp Arg Phe Lys Asn Glu Leu Lys Asn Gly Arg Pro Arg  
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 Ser Gly Glu Thr Arg Ala Glu Phe Glu Gly Arg Val Ala Lys Glu Ser  
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 Asn Leu Lys Lys Glu Leu Ala Asn Gly Asn Asp Ala Leu Arg Asn Glu  
 225 230 235 240  
 Asp Ala Arg Ser Pro Phe Tyr Ser Ala Leu Arg Asn Thr Pro Ser Phe  
 245 250 255  
 Lys Glu Arg Asn Gly Gly Asn His Asp Pro Ser Arg Met Lys Ala Val  
 260 265 270  
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Ser Lys Phe Arg Asn Trp Ser Glu Gly Tyr Ser Asp Phe Asp Arg Gly  
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Val Pro Ala Asp Ala Ala Arg Leu Val Ala Ser Gly Lys Leu Asp Gln  
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Arg Leu Phe Asp Val Thr Glu Leu Asn Lys Ala Ala Thr Arg Thr Ala  
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His Arg Gly Gly Leu Lys Val Ile Val Gly Tyr Arg Gly Ala Ala Lys  
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Ala Ala Lys Ala Asp Val Arg Asp Ala Gly Thr Val Arg Arg Thr Leu  
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Thr Ser Leu Asn Ala Asp Ala Val Gln Thr Pro Gln Glu Ala Gly Ala  
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Glu Leu Trp Glu Ala Val Thr Asp Gly Asp Arg Thr Ala Ser Gly Val  
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Ala Arg Val Trp Leu Asp Gly Val Arg Lys Ala Ser Leu Asp Thr Ser  
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Val Gly Gln Ile Gly Thr Pro Lys Ala Trp Glu Ala Gly Tyr Asp Gly  
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 Pro Thr Thr Gly Asp Val Val Gly His Gly Thr His Val Ala Ser Ile  
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 Thr Asp Pro Leu Glu Ala Ala Val Asp Lys Leu Ser Ala Glu Lys Gly  
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Thr Gly Pro Lys Gly Lys Ala Ala Pro Ala Gly Phe Phe Thr Leu Gly  
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 Tyr Val Val Ala Thr Gly Ala Gly Gln Ser Val Arg Thr Ala Ala Ala  
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                                     Met Arg Lys
                                     1

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Ala Leu Arg Ser Leu Leu Ala Ala Ser Met Leu Ile Gly Ala Ile Gly
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Asp Ile Lys Asp Arg Ile Leu Lys Ile Pro Gly Met Lys Phe Val Glu
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Glu Lys Pro Tyr Gln Gly Tyr Arg Tyr Leu Val Met Thr Tyr Arg Gln
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ccg gtg gac cac cgc aat ccc ggc aag ggg acc ttc gag cag cgc ttc 477
Pro Val Asp His Arg Asn Pro Gly Lys Gly Thr Phe Glu Gln Arg Phe
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acc ctg ctc cac aag gac acc gac cgg ccg acc gtg ttc ttc acg tcc 525
Thr Leu Leu His Lys Asp Thr Asp Arg Pro Thr Val Phe Phe Thr Ser
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Gly Tyr Asn Val Ser Thr Asn Pro Ser Arg Ser Glu Pro Thr Arg Ile
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Val Asp Gly Asn Gln Val Ser Met Glu Tyr Arg Phe Phe Thr Pro Ser
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Arg Pro Gln Pro Ala Asp Trp Ser Lys Leu Asp Ile Trp Gln Ala Ala
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Phe Gln Asn Val Gly Asp Lys Ala Cys Arg Thr Gln Leu Asn Ser Val			
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Ala Gly Thr Gln Leu Gly Ala Pro Thr Val Lys Asn Pro His Leu Lys			
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Arg Asp Ile Pro Met Thr Phe Arg Pro Gly Ala Met Ala Asp Val Asp			
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Asn Asp Pro Trp Ser Gly Glu Pro Phe Arg Leu Gly Lys Gly Ala Ala			
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 Asn Ile Ala Gln Leu Val Ala Asp Glu Arg Ala Lys Ala Thr Ala Glu  
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 Lys Asn Asp Lys Gln Ser Ala Leu Arg Pro  
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 35 40 45  
 Phe Val Glu Glu Lys Pro Tyr Gln Gly Tyr Arg Tyr Leu Val Met Thr  
 50 55 60  
 Tyr Arg Gln Pro Val Asp His Arg Asn Pro Gly Lys Gly Thr Phe Glu  
 65 70 75 80  
 Gln Arg Phe Thr Leu Leu His Lys Asp Thr Asp Arg Pro Thr Val Phe  
 85 90 95  
 Phe Thr Ser Gly Tyr Asn Val Ser Thr Asn Pro Ser Arg Ser Glu Pro  
 100 105 110  
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 115 120 125  
 Thr Pro Ser Arg Pro Gln Pro Ala Asp Trp Ser Lys Leu Asp Ile Trp

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Tyr Gly Lys Asn Trp	Leu Ala Thr Gly Gly Ser Lys Gly Gly Met Thr	
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Ala Thr Tyr Phe Arg Arg Phe Tyr	Pro Asn Asp Met Asn Gly Thr Val	
	180	185 190
Ala Tyr Val Ala Pro Asn Asp	Val Asn Asp Lys Glu Asp Ser Ala Tyr	
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Asp Lys Phe Phe Gln Asn	Val Gly Asp Lys Ala Cys Arg Thr Gln Leu	
	210	215 220
Asn Ser Val Gln Arg Glu Ala Leu Val	Arg Arg Asp Glu Ile Val Ala	
	225	230 235 240
Arg Tyr Glu Lys Trp Ala Lys Glu Asn	Gly Lys Thr Phe Lys Val Val	
	245	250 255
Gly Ser Ala Asp Lys Ala Tyr Glu Asn	Val Val Leu Asp Leu Val Trp	
	260	265 270
Ser Phe Trp Gln Tyr His Leu Gln	Ser Asp Cys Ala Ser Val Pro Ala	
	275	280 285
Thr Lys Ala Ser Thr Asp Glu Leu Tyr Lys	Phe Ile Asp Asp Ile Ser	
	290	295 300
Gly Phe Asp Gly Tyr Thr Asp Gln Gly Leu	Glu Arg Phe Thr Pro Tyr	
	305	310 315 320
Tyr Tyr Gln Ala Gly Thr Gln Leu Gly Ala	Pro Thr Val Lys Asn Pro	
	325	330 335
His Leu Lys Gly Val Leu Arg Tyr	Pro Gly Ile Asn Gln Pro Arg Ser	
	340	345 350
Tyr Val Pro Arg Asp Ile Pro Met Thr Phe Arg	Pro Gly Ala Met Ala	
	355	360 365
Asp Val Asp Arg Trp Val Arg Glu Asp Ser Arg	Asn Met Leu Phe Val	
	370	375 380
Tyr Gly Gln Asn Asp Pro Trp Ser Gly Glu Pro	Phe Arg Leu Gly Lys	
	385	390 395 400
Gly Ala Ala Ala Arg His Asp Tyr Arg Phe Tyr Ala	Pro Gly Gly Asn	
	405	410 415
His Gly Ser Asn Ile Ala Gln Leu Val Ala Asp Glu Arg Ala Lys Ala		
	420	425 430
Thr Ala Glu Val Leu Lys Trp Ala Gly Val Ala Pro Gln Ala Val Gln		

435	440	445
Lys Asp Glu Lys Ala Ala Lys Pro Leu Ala Pro Phe Asp Ala Lys Leu		
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Asp Arg Val Lys Asn Asp Lys Gln Ser Ala Leu Arg Pro		
465	470	475

<210> 11  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:PCR primer

<400> 11  
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<210> 12  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:PCR primer

<400> 12  
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<210> 13  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:PCR primer for  
 the promoter region and signal sequence region of  
 S.mobaraense

<400> 13  
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<210> 14  
 <211> 20  
 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence:PCR primer for  
 the promoter region and signal sequence region of  
 S.mobaraense

<400> 14  
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<210> 15  
 <211> 26  
 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence:PCR primer

<400> 15  
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<210> 16  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:PCR primer

<400> 16  
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<210> 17  
 <211> 30  
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<220>  
 <223> Description of Artificial Sequence:PCR primer

<400> 17  
 atgcgcatac gccggagagc tctcgtcttc 30

<210> 18  
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 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer

<400> 18  
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<210> 19  
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 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 19  
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 <210> 21  
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 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
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 <210> 22  
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 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 22  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 23  
 gacaatggcg cgggggaaga gacgaagtcc 30  
  
 <210> 24

<211> 25  
 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 24  
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 <210> 25  
 <211> 52  
 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 25  
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 <210> 26  
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 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 26  
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 <210> 27  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 27  
 atgaaacgca tgaaatcgct ggctgcggcg 30  
  
 <210> 28  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 28  
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<220>  
<223> Description of Artificial Sequence:PCR primer

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<210> 30
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<212> DNA
<213> Streptovercillium cinnamoneum
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<220>  
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Arg Lys Trp Gln Gln Val Tyr Ser His Arg Asp Gly Lys Lys Gln Gln	
125 130 135	
atg acc gaa gag cag cga gaa aag ctg tcc tac ggt tgc gtt ggc gtc	606
Met Thr Glu Glu Gln Arg Glu Lys Leu Ser Tyr Gly Cys Val Gly Val	
140 145 150	
acc tgg gtc aac tcg ggc ccc tac ccg acg aac aga ttg gcg ttc gcg	654
Thr Trp Val Asn Ser Gly Pro Tyr Pro Thr Asn Arg Leu Ala Phe Ala	
155 160 165	
tcc ttc gac gag aac aag tac aag aac gac ctg aag aac acc agc ccc	702
Ser Phe Asp Glu Asn Lys Tyr Lys Asn Asp Leu Lys Asn Thr Ser Pro	
170 175 180	
cga ccc gat gaa acg cgg gcg gag ttc gag ggt cgc atc gcc aag ggc	750
Arg Pro Asp Glu Thr Arg Ala Glu Phe Glu Gly Arg Ile Ala Lys Gly	
185 190 195 200	
agt ttc gac gag ggg aag ggt ttc aag cgg gcg cgt gat gtg gcg tcc	798
Ser Phe Asp Glu Gly Lys Gly Phe Lys Arg Ala Arg Asp Val Ala Ser	
205 210 215	
gtc atg aac aag gcc ctg gaa aat gcc cac gac gag ggg act tac atc	846
Val Met Asn Lys Ala Leu Glu Asn Ala His Asp Glu Gly Thr Tyr Ile	
220 225 230	
aac aac ctc aag acg gag ctc acg aac aac aat gac gct ctg ctc cgc	894
Asn Asn Leu Lys Thr Glu Leu Thr Asn Asn Asn Asp Ala Leu Leu Arg	
235 240 245	
gag gac agc cgc tcg aac ttc tac tcg gcg ctg agg aac aca ccg tcc	942
Glu Asp Ser Arg Ser Asn Phe Tyr Ser Ala Leu Arg Asn Thr Pro Ser	
250 255 260	
ttc aag gaa agg gac ggc ggc aac tac gac ccg tcc aag atg aag gcg	990
Phe Lys Glu Arg Asp Gly Gly Asn Tyr Asp Pro Ser Lys Met Lys Ala	
265 270 275 280	
gtg atc tac tcg aag cac ttc tgg agc ggg cag gac cag cgg ggc tcc	1038
Val Ile Tyr Ser Lys His Phe Trp Ser Gly Gln Asp Gln Arg Gly Ser	
285 290 295	
tcc gac aag agg aag tac ggc gac ccg gaa gcc ttc cgc ccc gac cag	1086
Ser Asp Lys Arg Lys Tyr Gly Asp Pro Glu Ala Phe Arg Pro Asp Gln	
300 305 310	
ggt acc ggc ctg gtc gac atg tcg aag gac aga agc att ccg cgc agt	1134
Gly Thr Gly Leu Val Asp Met Ser Lys Asp Arg Ser Ile Pro Arg Ser	
315 320 325	
ccg gcc aag ccc ggc gaa ggt tgg gtc aat ttc gac tac ggt tgg ttc	1182
Pro Ala Lys Pro Gly Glu Gly Trp Val Asn Phe Asp Tyr Gly Trp Phe	

330	335	340	
ggg gct caa aca gaa gcg gat gcc gac aaa acc aca tgg acc cac ggc			1230
Gly Ala Gln Thr Glu Ala Asp Ala Asp Lys Thr Thr Trp Thr His Gly			
345	350	355	360
gac cac tac cac gcg ccc aat agc gac ctg ggc ccc atg cac gta cac			1278
Asp His Tyr His Ala Pro Asn Ser Asp Leu Gly Pro Met His Val His			
365	370		375
gag agc aag ttc cgg aag tgg tct gcc ggg tac gcg gac ttc gac cgc			1326
Glu Ser Lys Phe Arg Lys Trp Ser Ala Gly Tyr Ala Asp Phe Asp Arg			
380	385		390
gga gcc tac gtg atc acg ttc ata ccc aag agc tgg aac acc gcc ccc			1374
Gly Ala Tyr Val Ile Thr Phe Ile Pro Lys Ser Trp Asn Thr Ala Pro			
395	400		405
gcc aag gtg gag caa ggc tgg ccg tgacaggctg gtactacgac ctctgctgat			1428
Ala Lys Val Glu Gln Gly Trp Pro			
410	415		
ttctgcccgg tcagtccacg cctctcgacg cga			1461

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 <213> Streptoveriticillium cinnamoneum

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 35 40 45  
 Ala Asp Asp Val Glu Ser Ile Asn Ala Leu Asn Glu Arg Ala Leu Thr  
 50 55 60  
 Leu Gly Gln Pro Gly Lys Pro Pro Lys Glu Leu Pro Pro Ser Ala Ser  
 65 70 75 80  
 Ala Pro Ser Arg Ala Pro Ser Asp Asp Arg Glu Thr Pro Pro Ala Glu  
 85 90 95  
 Pro Leu Asp Arg Met Pro Glu Ala Tyr Arg Ala Tyr Gly Gly Arg Ala  
 100 105 110  
 Thr Thr Val Val Asn Asn Tyr Ile Arg Lys Trp Gln Gln Val Tyr Ser  
 115 120 125  
 His Arg Asp Gly Lys Lys Gln Gln Met Thr Glu Glu Gln Arg Glu Lys  
 130 135 140

Leu Ser Tyr Gly Cys Val Gly Val Thr Trp Val Asn Ser Gly Pro Tyr  
 145 150 155 160  
 Pro Thr Asn Arg Leu Ala Phe Ala Ser Phe Asp Glu Asn Lys Tyr Lys  
 165 170 175  
 Asn Asp Leu Lys Asn Thr Ser Pro Arg Pro Asp Glu Thr Arg Ala Glu  
 180 185 190  
 Phe Glu Gly Arg Ile Ala Lys Gly Ser Phe Asp Glu Gly Lys Gly Phe  
 195 200 205  
 Lys Arg Ala Arg Asp Val Ala Ser Val Met Asn Lys Ala Leu Glu Asn  
 210 215 220  
 Ala His Asp Glu Gly Thr Tyr Ile Asn Asn Leu Lys Thr Glu Leu Thr  
 225 230 235 240  
 Asn Asn Asn Asp Ala Leu Leu Arg Glu Asp Ser Arg Ser Asn Phe Tyr  
 245 250 255  
 Ser Ala Leu Arg Asn Thr Pro Ser Phe Lys Glu Arg Asp Gly Gly Asn  
 260 265 270  
 Tyr Asp Pro Ser Lys Met Lys Ala Val Ile Tyr Ser Lys His Phe Trp  
 275 280 285  
 Ser Gly Gln Asp Gln Arg Gly Ser Ser Asp Lys Arg Lys Tyr Gly Asp  
 290 295 300  
 Pro Glu Ala Phe Arg Pro Asp Gln Gly Thr Gly Leu Val Asp Met Ser  
 305 310 315 320  
 Lys Asp Arg Ser Ile Pro Arg Ser Pro Ala Lys Pro Gly Glu Gly Trp  
 325 330 335  
 Val Asn Phe Asp Tyr Gly Trp Phe Gly Ala Gln Thr Glu Ala Asp Ala  
 340 345 350  
 Asp Lys Thr Thr Trp Thr His Gly Asp His Tyr His Ala Pro Asn Ser  
 355 360 365  
 Asp Leu Gly Pro Met His Val His Glu Ser Lys Phe Arg Lys Trp Ser  
 370 375 380  
 Ala Gly Tyr Ala Asp Phe Asp Arg Gly Ala Tyr Val Ile Thr Phe Ile  
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 405 410 415

<210> 32  
 <211> 21  
 <212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:PCR primer

<400> 32

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21

<210> 33

<211> 32

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:PCR primer

<400> 33

ggcggatcct cgcgtcgaga ggcgtggact ga

32

<210> 34

<211> 21

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:PCR primer

<400> 34

tacgaattcg agctcggtac c

21

<210> 35

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR primer

<400> 35

ccccttctct tccccatcgc ctgccgttgc cacaggtgcg gcc

43

<210> 36

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR primer

<400> 36

aacggggaga acagcacggc cgccgg

26

<210> 37  
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 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 37  
 ggcgaattct ccggcgggcc gtcaccggt 29

<210> 38  
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 <223> Description of Artificial Sequence:PCR primer for  
 fused prepro-serineprotease construction  
  
 <400> 38  
 ggcaagctta aattcctgtg aattagctga 30

<210> 39  
 <211> 44  
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 <223> Description of Artificial Sequence:PCR primer for  
 fused prepro-serineprotease gene construction  
  
 <400> 39  
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<210> 40  
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 <212> PRT  
 <213> Streptovercillium mobaraence  
  
 <400> 40  
 Gln Ala Asp Ile Lys Asp Arg Ile Leu Lys Ile Pro Gly Met Lys Phe  
 1 5 10 15  
 Val Glu Glu Lys  
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<210> 41  
 <211> 11  
 <212> PRT  
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<223> Description of Artificial Sequence:probe for svPEP

<400> 41

Lys Ile Pro Gly Met Lys Phe Val Glu Glu Lys  
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<210> 42

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:probe for svPEP

<400> 42

aagatccccg ggatgaagtt cgatcaggag aag

33

<210> 43

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR primer

<400> 43

gaggcggcgt cgatcaccgc ccc

23

<210> 44

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR primer

<400> 44

gccaagcttg aagcaccggc ggcggcaccg gg

32

<210> 45

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR primer

<400> 45

ggggcgggtga tcgacgccgc ctctgccgtt gccacaggtg cggcca

46

<210> 46

<211> 37

<212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 46  
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 <210> 47  
 <211> 24  
 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 47  
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 <210> 48  
 <211> 42  
 <212> DNA  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 48  
 aacatcaaca acggcttcaa caattccgat tctgagtgcc ct 42  
  
  
 <210> 49  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 49  
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 <210> 50  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Description of Artificial Sequence:PCR primer  
  
 <400> 50  
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<210> 51  
<211> 21  
<212> DNA  
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<220>  
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<400> 51  
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<210> 52  
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<212> DNA  
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<223> Description of Artificial Sequence:PCR primer

<400> 52  
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<210> 53  
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<212> DNA  
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<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 53  
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<210> 54  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 54  
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<210> 55  
<211> 53  
<212> PRT  
<213> Homo sapiens

<400> 55  
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20 25 30

Cys Val Val Gly Tyr Ile Gly Glu Arg Cys Gln Tyr Arg Asp Leu Lys  
35 40 45

Trp Trp Glu Leu Arg  
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<210> 56  
<211> 20  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 56  
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<210> 57  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 57  
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<210> 58  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 58  
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<210> 59  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:PCR primer

<400> 59  
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<210> 60  
<211> 4  
<212> PRT  
<213> Streptovercillium mobaraense

<400> 60  
Phe Arg Ala Pro  
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1